



Aalborg Universitet

AALBORG UNIVERSITY
DENMARK

ALICE - ARC integration

Anderlik, Csaba; Gregersen, Anders Rhod; Kleist, Josva; Peters, Andreas; Siaz, Pablo

Publication date:
2007

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Anderlik, C., Gregersen, A. R., Kleist, J., Peters, A., & Siaz, P. (2007). *ALICE - ARC integration*. Poster presented at Computation in High Energy Physics - CHEP'07, Victoria, Canada.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

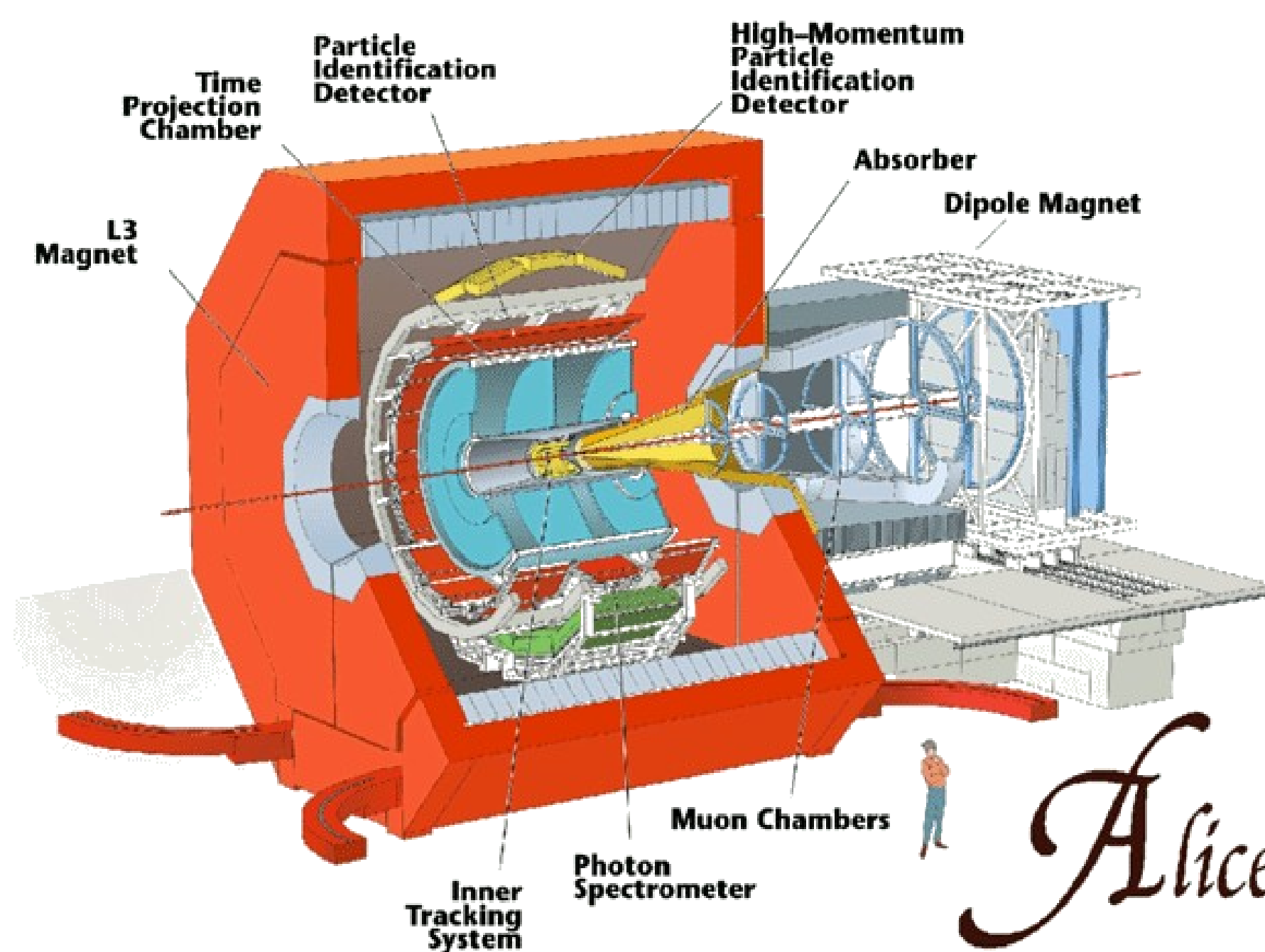
If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

ALICE ARC Integration

Josva Kleist¹, Csaba Anderlik¹, Anders Rhod Gregersen¹, Pablo Saiz², Andreas Peters²

¹ Nordic Data Grid Facility

² CERN



NDGF – Nordic Data Grid Facility, is the organization responsible for the management of the T1 distributed over the nordic region; Softwarewise, the Nordic T1 is based on ARC, the Grid middleware developed by NorduGrid.

This poster presents our approach to integrate AliEn and ARC, in the sense that ALICE data management and job processing can be carried out on the NDGF infrastructure, using the client tools available in AliEn

ALICE – A Large Ion Collider Experiment at LHC, involves ~1000 scientists (from ~100 of geographically distributed institutes) and therefore implies a highly distributed data flow; The produced data consists of a large number of GB size files which needs to be further processed and analyzed.

AliEn – Alice Environment – is a distributed environment to deal with the computing needs of the experiment.

The interoperation has two aspects: a data management part and a job management part. Here we focus on the latter, job management is somewhat “cumbersome” due to the different computing models employed by AliEn and ARC. AliEn uses an Agent based pull model while ARC handles jobs through the more “traditional” push model. The solution comes as a module implementing the functionalities necessary to achieve AliEn job submission and management to ARC enabled sites. This approach is planned to be deployed in two stages.

Stage 1



Distributed T1 with individual AliEn VO-boxes installed at each member site: Aalborg, DCSC_KU, NSC, LUNARC, Jyvaskyla, CSC, UiB, UiO.

Each VO-box runs the Following services: CE, ClusterMonitor, PackMan, MonaLisa.

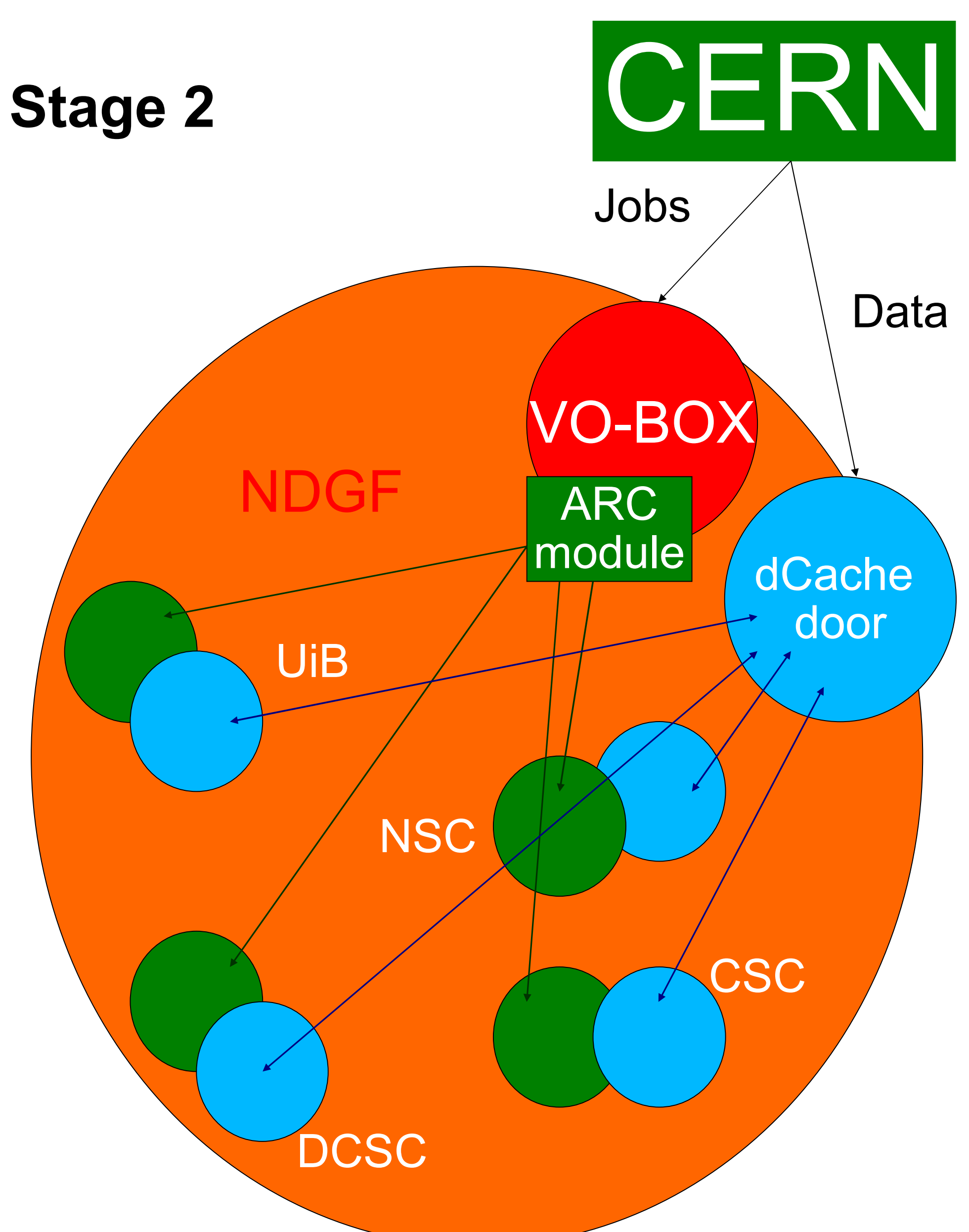
Several backends: Torque, Loadleveler, SGE, **ARC(UiB)**

Accounting using information from MonaLisa combined with SGAS

ARC module:

- sets up ARC environment within AliEn
- translates JDL to xRSL job description for the AliEn JobAgent (JA)
- JA submitted and monitored using ARC tools

Stage 2



Single ALICE VO-box for NDGF T1, submitting JAs to ARC servers (green circles) at each participating node, data management is done using a single dCache door for NDGF; each local storage element will run as a dCache pool (blue circles) for the central dCache server.